

# Safety, Health, & Environmental (SHE) Training for Managers/Supervisors



The safety of your personnel is your responsibility!

Presented by: Industrial Safety Branch & Environmental Engineering & Occupational Health Office

# Safety Moment

# **Safety Moment**



Embedded in the sidewalk is a memorial to those who lost their lives. The plaque states: "The Cocoanut Grove. Erected by the Bay Village Association, 1993. In memory of the more than 490 people that died in the Cocoanut Grove Fire on November 28 1942. As a result of that terrible tragedy, major changes were made in the fire codes, and improvements in the treatment of burn victims, not only in Boston but across the nation. 'Phoenix out of the Ashes.'"



"I can assure you if we had not had that fire and rebuilt the command module ... we could not have done the Apollo program successfully. So we owe a lot to Gus, and Roger and Ed. They made it possible for the rest of us to do the almostimpossible."

Astronaut John Young

# Requirements

#### Requirements - Occupational Safety & Health Act of 1970

- More than 90 million Americans spend their days on the job. They are our most valuable national resource.
- Until 1970, no uniform and comprehensive provisions existed for their protection against workplace safety and health hazards.
- In 1970, Congress considered annual figures such as the following to support the need for worker protection legislation:
  - Job related accidents accounted for more than 14,000 worker deaths
  - Nearly 2½ million workers were disabled
  - Ten times as many person-days were lost from job-related disabilities as from strikes
  - Estimated new cases of occupational diseases totaled 300,000
- In response to these facts, the Occupational Safety and Health Act of 1970 (OSH Act) was passed by a bipartisan Congress, "... to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources."

#### Requirements - Executive Order 12196 (REF 29 CFR 1960)

- Provide employment free from recognized hazards
- Provide Occupational Safety and Health Program
- Comply with Occupational Safety and Health Act (OSHA)
- Ensure prompt abatement of unsafe or unhealthy working conditions
- Ensure no employee is discriminated against for reporting unsafe/unhealthful conditions.
- Ensure periodic inspections are performed
- Promptly respond to reports of hazardous conditions
  - Immediate danger: 24 hours
  - Potentially serious: 3 working days
  - Other Conditions: 20 working days
- Allow employee representatives to accompany inspection teams
- Operate OS&H management information system
- Provide safety training
- Submit annual reports
- Appoint Agency Rep to head OS&H Program Chief Medical Officer is the NASA Rep

#### Requirements - 40 CFR: Protection of the Environment

■ Born in the wake of elevated concern about environmental pollution, the U.S. Environmental Protection Agency opened its doors in downtown Washington, D.C., on December 2, 1970. EPA was established to consolidate in one agency a variety of federal research, monitoring, standard-setting and enforcement activities to ensure environmental protection. EPA's mission is:

to protect human health and to safeguard the natural environment air, water, and land—upon which life depends.

- For more than 30 years, the EPA has been working for a cleaner, healthier environment for the American people.
- EPA works to develop and enforce regulations that implement environmental laws enacted by Congress.
- There are more than a dozen major statutes or laws form the legal basis for the programs of the EPA. These laws regulate air, land, water, and waste.

# Why am I here?

# Why am I here?

# 29 CFR 1960, "Basic Program Elements for Federal Employee Occupational Safety and Health Programs"

- Training (29 CFR 1960.54 & 55)
  - "Each agency shall provide top management officials with orientation and other learning experiences which will enable them to manage the occupational safety and health programs of their agencies."
  - "Each agency shall provide occupational safety and health training for supervisory employees that includes:
    - responsibility for providing and maintaining safe and healthful working conditions for employees
    - agency occupational safety and health program, section 19 of the Act
    - Executive Order 12196
    - occupational safety and health standards applicable to the assigned workplace
    - agency procedures for reporting hazards, agency procedures for reporting and investigating allegations of reprisal
    - agency procedures for the abatement of hazards, as well as other appropriate rules and regulations"

# Why am I here?

More Importantly....

Because you've changed from an employee to a member of management ....

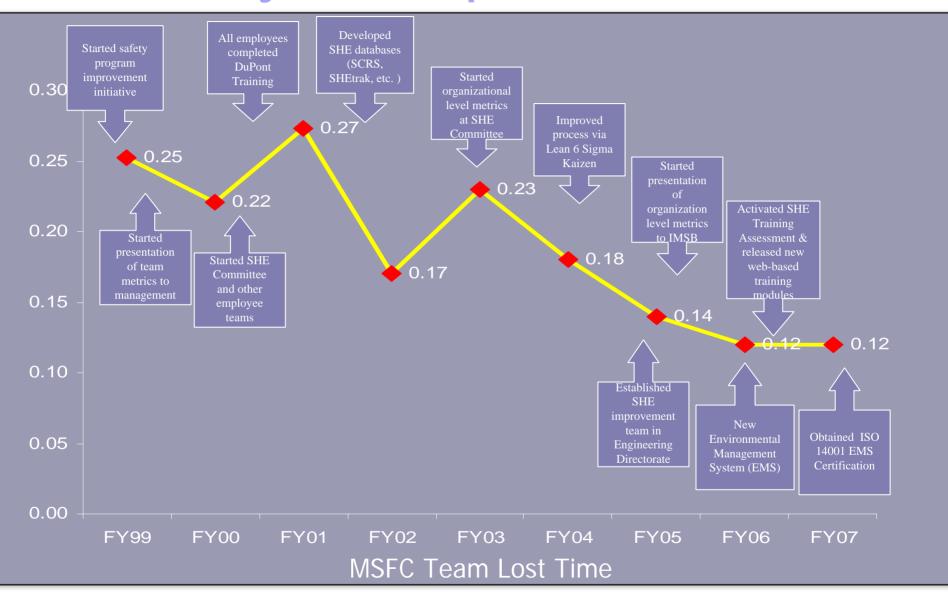
You are responsible for the safety of your employees.

# **MSFC** History

## **MSFC History – Significant Mishaps**

- 1964 Bldg. 4548 Construction Worker Fell One Fatality
- 1966 TS115 Tank Ruptured Two Fatalities
- 1966 TPTA 4514 Crane Failure One Fatality
- 1974 4623 Hydrofluoric Acid Spill One Fatality
- 1975 Building 4572 Painters Rigging Failed One Fatality
- 1980 TS500 Hydrogen Gas Explosion No Fatalities \$6,000,000 Loss

## **MSFC History – SHE Improvement Initiatives**



# SHE Program

#### **SHE Program – Policy and Principles**

... MSFC strives to prevent human injury and ensure the safety of all operations and products leading to mission success.

#### **MSFC Principles of Safety**

- 1. Unsafe conditions are correctable.
- 2. All mishaps can be prevented.
- 3. Management is responsible and accountable for prevention of on-the-job mishaps.
- 4. All mishaps must be reported, investigated, and the causes rectified.
- 5. Management is responsible for training employees to work safely.
- 6. Each employee is responsible for safety.
- Off duty safety is an important part of MSFC's safety success.
- 8. A comprehensive safety and risk management program increases the probability of mission success.





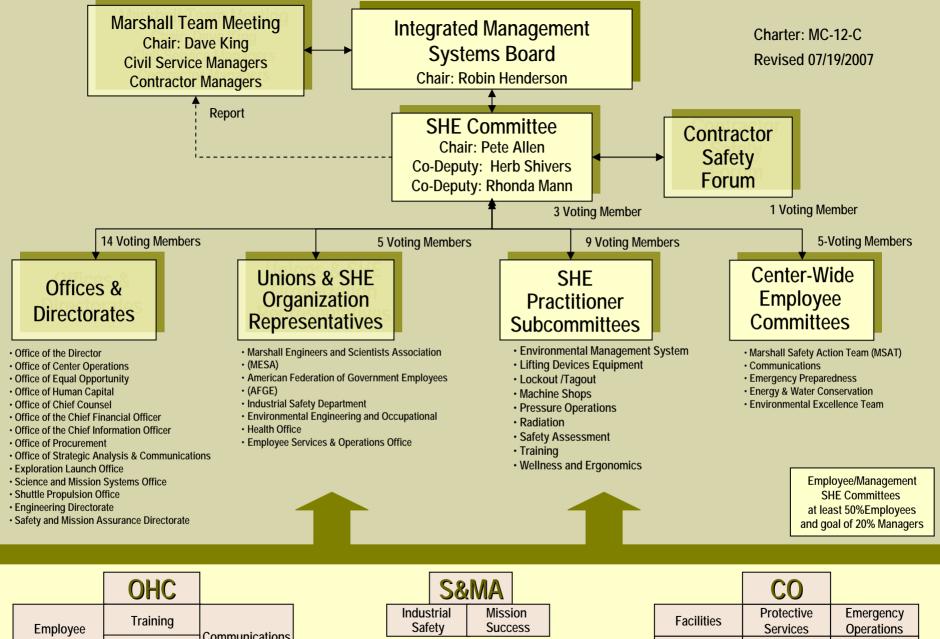
#### **SHE Program - Policy**

Environmental Engineering and Occupational Health Policy Enabling Marshall's Missions through environmental compliance and stewardship and a safe and healthful work place.









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	Facilities	Protective	Emergency
	raciiilles	Services	Operations
	Occupational	Environmental	Environmental
ŀ	Health	Health	Engineering
	Logistics	Aviation	Physical
	Logistics	Safety	Fitness

#### **SHE Program - Documents**

NPD 8710.2 NASA Safety and Health Program Policy NPD 8500.1 NASA Environmental Management MPR 8715.1 Marshall Safety, Health, and Environmental (SHE) Program Health **Environmental** Safety MPD 1800.1 MSFC Smoking Policy MPD 8500.1 MSFC Environmental Management Policy MWI 8715.1 Electrical Safety Program MPR 1800.1 Bloodborne Pathogens MPR 8500.1 MSFC Environmental Management Program MWI 8715.2 Lockout/Tagout Program MPR 1810.1 MSFC Occupational Medicine MPR 8500.2 MSFC Environmental Management System MWI 8715.3 Hazard Warning MPD 1840.1 MSFC Environmental Health manual Signs and Barricades Program MWI 8540.2 Affirmative Procurement Program for MWI 8715.4 Personal Protective Equipment (PPE) MPR 1840.1 MSFC Confined Space Entries **Environmentally Preferable Products** MWI 8715.5 Area/Building Manager Program MPD 1840.2 MSFC Hearing Conservation Program MWI 8550.1 Waste Management MWI 8715.9 Occupational Safety Guidelines for MPR 1840.2 MSFC Hazard Communication Program MWI 8550.2 Storm Water Management Contractors MPD 1840.3 MSFC Respiratory Protection Program MWI 8550.3 Wastewater Compliance MWI 8715.10 Explosives, Propellants, & MPR 1840.3 MFSC Hazardous Chemicals in MWI 8550.4 Air Emissions Compliance Pyrotechnics Program Laboratories Protection Program MWI 8550.5 Chemical Material Management MWI 8715.11 Fire Safety Program MPR 1860.1 MSFC Radiation Safety Procedural MWI 8570.1 MSFC Energy Management Program MWI 8715.12 Safety, Health & Environmental Requirements (SHE) finding Tracking System MPD 1860.1 Laser Safety MWI 8715.16 Supervisor's Safety Visits MPD 1860.2 Radiation Safety Program Close Call/Mishaps/Concerns **Flight Emergency Management** MPD 1040.3 MSFC Emergency Program MWI 1700.2 System Safety Program MPR 1040.3 MSFC Emergency Plan MWI 1280.5 MSFC Alert Processing MPD 8900.1 Medical Operations Responsibilities MWI 1700.3 NASA Safety Reporting System MPR 1600.1 MSFC Security Procedural Requirements for Human Space Flight Programs Corrective Action Process (NSRS) MPR 7900.1 Aviation Accident Plan **Training Assessment Management** MWI 8621.1 Close Call and Mishap Reporting and Investigation Program MWI 8715.13 Safety Concerns Reporting System MPR 3410.1 Training MWI 8715.15 Ground Operations Safety (SCRS) MWI 3410.1 Personnel Certification Program Assessment & Risk Mitigation Program **Pressure Systems Lifting Moving Operations** Software MPR 4500.1 Management of Propellants and MWI 6410.1 Packaging, Handling, & Moving MPR 8050.1 Verification of Hardware, Software Pressureants Program Critical Hardware MPR 8823.2 Pressure Systems Guidelines & Ground Support Equipment for MWI 6430.1 Lifting Equipment & Operations MSFC Projects and Certification Requirements MWI 6700.1 MSFC Motor Pool Operations **SHE 118** 18

■ The MSFC SHE Program uses five (5) Core Program Requirements (CPR's) to describe the policies, responsibilities, and procedures that are in compliance with the latest applicable Federal, NASA, and Industry regulations and standards.

■ CPR 1 – Management leadership and employee

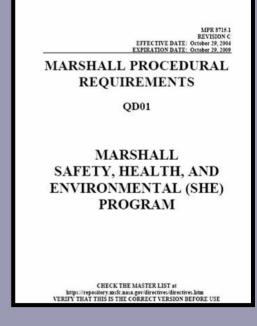
involvement

■ CPR 2 – System and worksite analysis

■ CPR 3 – Hazard prevention and control

- CPR 4 Safety and Health training
- CPR 5- Environmental compliance

Note: These core requirements are based on OSHA's VPP "Star" Certification elements and are outlined in MPG 8715.1 "Marshall Safety, Health, and Environmental (SHE) Program."



#### **CPR 1 - Management Leadership and Employee Involvement**

- **Management Commitment** 
  - Safety and Health Policy
  - Goals and Objectives\*
  - 3. **Planning**
  - **Top Management Involvement**
  - **Responsibility and Authority**
  - Line Accountability\*
  - Resources
  - 8. **Contract Workers**
  - Written Safety and Health **Management Systems**
  - 10. Program Evaluation\*
- **Employee Involvement** 
  - **Encouragement**
  - **Participation**
  - Committees\*

#### 2.0 SHE POLICY

#### 3.0 MSFC SHE VISION

- 3.2.3 Sustainable development and operations in Center programs3.2.4 No significant regulatory, restoration, or pollution prevention

#### 4.0 FY08 SHE PROGRAM GOALS

- Improve Mishap Rates from the last 3-year averages by obtaining a Lost Time Rate of 0.13 or better and an OSHA Recordable Rate of 0.64 or better
- Maintain Integrated Management Systems Board (IMSB) SHE Metrics at least 97%
- Complete SHE Actions identified in SHE Program Plan for FY08
- Maintain ISO 14001 Environmental Management Systems (EMS) Registration
- Conduct a Third Party Pre-Assessment of the MSFC S&H Program
- Increase emphasis on use of seatbelts and establish an accurate method for measuring

\*Critical Elements

#### **CPR 2 - System and Worksite Hazard Analysis**

#### \*Critical Elements

- 1. Baseline Surveys
- 2. Routine Hazard Analysis\*
- 3. Change Hazard Analysis
- 4. Inspections \*
- 5. Reporting Systems
- 6. Industrial Hygiene Program\*
- 7. Investigations\*
- 8. Trend/Pattern Analysis



#### **Minimum Level of Assessment**

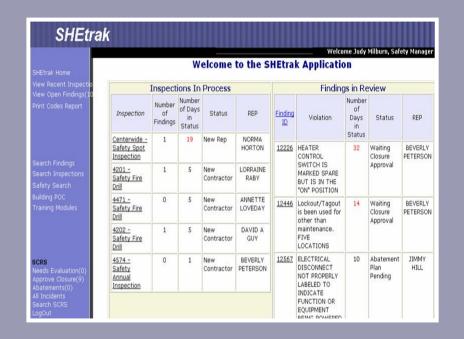
Risk Level	ORI	SRT	TRR/ ORR	НА	JHA	OP	Dry Run	PPE Assmt.
1	Х		Χ	Χ		Х	*** <b>X</b>	Х
2		X	X	X		X		X
3		*X	*X		* * X	X		X
4					* * X	* * X		***X

#### **CPR 3 - Hazard Prevention and Control**

- Certified Professional Resources
- 2. Hierarchy of Controls
- 3. Rules, Procedures & Recognition
- 4. Process Safety Management
- 5. Occupational Health Care
- 6. Preventative Maintenance
- 7. Hazard Correction Tracking\*
- 8. Emergency Preparedness

#### **CPR 4 - Safety and Health Training**

- 1. Managers
- 2. Supervisors
- 3. Employees



#### \*Critical Elements

#### **CPR 5 - Environmental Compliance**

- 1. Increase use of green chemicals
- 2. Reducing, reusing, and recycling hazardous and toxic substances
- 3. Minimizing storm water pollution
- 4. Complying with the Clean Air and Clean Water Acts
- 5. Properly disposing of hazardous waste, controlled waste, and/or wastewater

## ISO 1400.1 Certified, 2007

NOTE: Contact Environmental Engineering Department for additional information.





- Promote SHE stewardship by setting a positive example.
- Communicate SHE goals established by the directorate/office directors.
- Inform employees of the following:
  - Specific hazards associated with their workplace and duties
  - Location of nearest medical treatment facility
  - Procedure for obtaining treatment
  - Method for reporting occupational injuries or illnesses
  - Their responsibility and rights under OSHA law (29 CFR 1960.59 for civil service or 29 CFR 1903.2 (a)(1) for contractors).
- Ensure MSFC Form 596, "Emergency Telephone Numbers," or equivalent is posted on telephones.

■ Responsibilities We Perform for You

- Prepare and post housekeeping rules.
- Conduct monthly SHE meetings with employees.
- Look for housekeeping problems as part of daily routine.
- Conduct SHE Visits of assigned areas of responsibility in accordance with MWI 8715.16, Supervisor SHE Visits.
- Evaluate employee's SHE performance using the performance appraisal system.
- Take appropriate action to protect employees in "Imminent Danger" situations.

- Are members of, or support, MSFC's SHE Committees.
- Assure JHAs and other safety assessments are performed in accordance with MWI 8715.15.



- Stop operation if an unsafe act or condition exists, and report it to management.
- Stop operation if an act will harm the environment and contact EEOH at 544-4246.
- Report and investigate mishaps, including close calls, in accordance with MWI 8621.1.
- Conduct SHE Training Needs Assessment posted on SSWP, in accordance with MPR 3410.1.
- Ensure personnel are trained to perform their jobs in a safe and healthful manner and are certified where required, before assignment to potentially hazardous work tasks, in accordance with MWI 3410.1.
- Ensure all personnel (including visitors, contractors, and researchers) within work areas under their supervision comply with the requirements of the MSFC SHE program.

#### SHE Program - Employee's Responsibilities & Rights

- Each employee shall comply with the standards, rules, regulations and orders issued by his/her agency in accordance with section 19 of the Act, Executive Order 12196, and this part which are applicable to his/her own actions and conduct.
- Employees shall use safety equipment, personal protective equipment, and other devices and procedures provided or directed by the agency and necessary for their protection.
- Employees shall have the right to report unsafe and unhealthful working conditions to appropriate officials.
- Employees shall be authorized official time to participate in the activities provided for in section 19 of the Act, Executive Order 12196, this part, and the agency occupational safety and health program.

# How We're Doing

#### How We're Doing – 3<sup>rd</sup> Party Assessments

#### MANAGEMENT LEADERSHIP

**Management Commitment** 

62%

64 %

Element ID	Element (Fundamental)	2001 Scores	2004 Scores	1
1.1	Safety and Health Policy	48 %	72 %	
1.2	Goals and Objectives *	*	29 %	
1.3	Planning	40 %	75 %	
1.4	Top Management Involvement	59 %	42 %	
1.5	Responsibility and Authority	72 %	76 %	~ % .
1.6	Line Accountability	37 %	51 %	
1.7	Resources	81 %	81 %	
1.8	Contract Workers	81 %	72 %	•••
1.9	Written S&H Management Systems	83 %	83 %	
1.10	Program Evaluation	60 %	57 %	~ 5

<sup>\*</sup> In 2001 S&H Policy included Goals and Objectives

**Reduction from 2001** 

#### How We're Doing – 3<sup>rd</sup> Party Assessments

#### Headquarters' Institutional, Facilities and Operational (IFO) Audit July 23 -27, 2007

A few of the obvious things they found!





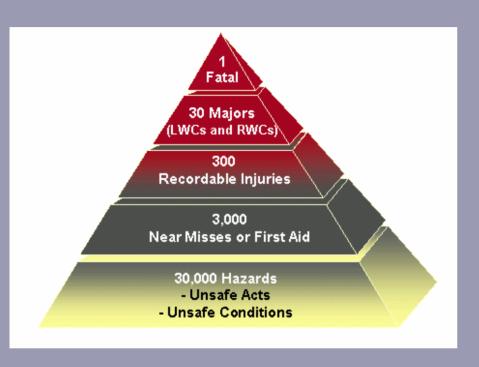




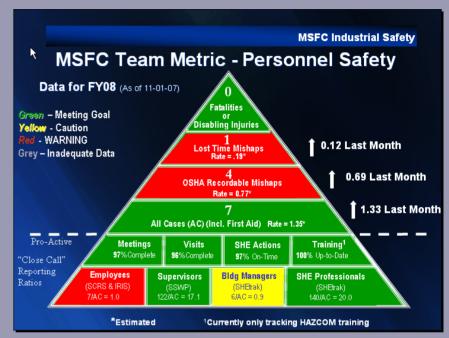




## **How We're Doing – Team Metrics**



Theoretical Relationship



**MSFC** Numbers

# Tools

## **Tools – Safety Assessment Matrix**

Risk Level	ORI	SRT	TRR/ ORR	НА	JHA	OP	Dry Run	PPE Assmt.
1	Х		Х	Х		Х	*** <b>X</b>	Х
2		Х	Х	Х		Х		Х
3		*X	*X		* * X	Х		X
4					**X	**X		***X

- \* If determined necessary by responsible organizations or S&MA.
- \*\* A JHA or OP are required.
- \*\*\* Not required for non-hazardous office environments.
- \*\*\*\* If determined necessary by responsible organizations or S&MA.

ORI – Operational Readiness Inspection

SRT – Safety Readiness Team Inspection

TRR - Test Readiness Review

**ORR – Operational Readiness Review** 

**HA – Hazard Analysis** 

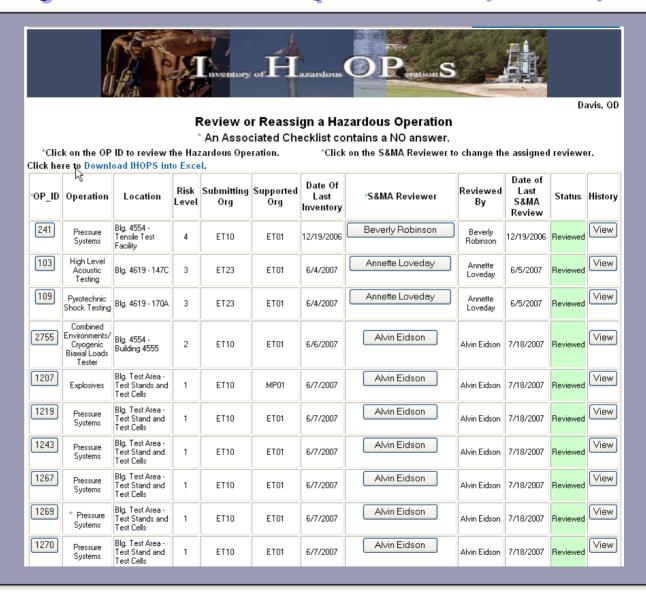
JHA – Job Hazard Analysis

**OP – Operating Procedures** 

PPE - Personal Protective Equipment

## **Tools** — Inventory of Hazardous Operations (IHOPS)

- Provides means for documenting and assuring appropriate safety assessment of our hazardous operations.
- Helps assure regular reviews.



# **Tools - Supervisors Safety Web Page**



Edward Kiessling QD50

+ Administration

Set Worker Inactive Reports To Supvs Listing Add/Edit Designee

+ Safety Meeting

Plan Meeting
Add Meeting
Edit/Delete Mtg
View/Print Mtg
Non-Attendee List
Mtg Attendance Metrics
Meeting Metrics
Emp Attendance Record

+ Safety Visit

Add Visit Edit/Delete Visit View/Print Visit Attendee History Visit Metrics

+ Safety Finding

Add Finding



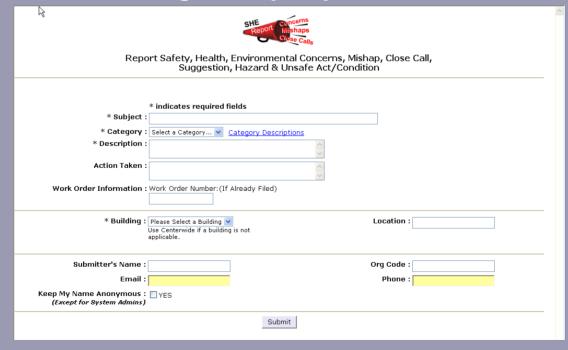
Supervisor's Safety Web Page

Safety Findings: 0 Active

January 2007 - "MSFC FY06 Summary Report".

## **Tools** - Reporting System

- Easy ways to Report Safety Concerns/Mishaps
  - Safety Concerns Reporting System (SCRS)
    - √ Submit electronically on SHE Web page
    - √ Call Safety Hot Line 544-0046
    - √ Submit concern using SCRS pamphlet



# **Tools - SHE Web Page**



# **Summary**

- As a supervisor you are responsible for safety of your personnel.
- You must set the example and demand your employees to do the same.
- We have an very good SHE program at MSFC, but it can be better.
- We have a professional staff and numerous tools to help you be successful.

# **Questions & Answers**